

ABSTRACT:

In this paper, a classification process to group starfruit into six maturity indices is proposed based on 1-dimensional color feature called hue, which is extracted from the starfruit image. As the original hue is quantified from the nonlinear transformation of the 3-dimensional Red, Green and Blue color, this paper proposes a linear hue transformation computation based on the 2 colors of Red and Green. The proposed hue computation leads to a reduced computational burden, less computational complexity and better class discriminant capability. The hue is then applied as the input for the maturity classification process. The classification process is based on the hypothesis that for each of the maturity index, certain area of the starfruit surface is supposed to have distinctive value of the hue. In this work, the said starfruit surface area is set as 70% of the total area and based on 600 samples, the proposed technique results in 93% classification accuracy